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INTERNATIONAL BULLETIN

OF

PLANT PROTECTION

SECOND LIST OF OFFICIAL PHYTOPATHOLOGICAL CORRESPONDENTS TO THE INTERNATIONAL INSTITUTE OF AGRICULTURE (*).

(The order of countries is that used in diplomacy, *i. e.* French alphabetical order. The addresses of correspondents are in the language used by the respective Governments in their official communications with the Institute).

Spain.

- AULLÓ Y COSTILLA, Manuel, Ingeniero de Montes, Jefe del Servicio de Estudio y Extinción de Plagas Forestales y del Laboratorio de la Fauna Forestal Española, Ferraz, 40, Madrid (España).
- BENNLOCH Y MARTÍNEZ, Miguel, Ingeniero Agrónomo, Profesor de la Escuela de Ingenieros Agrónomos, Director de la Estación Central de Patología Vegetal, La Moncloa, Madrid (8) (España).
- BERRO Y AGUILERA, Jesús, Ingeniero Agrónomo, Director de la Estación de Patología Vegetal, Calle de Murcia, 2, Almería (España).
- DEL CAÑIZO Y GÓMEZ, José, Ingeniero Agrónomo y Licenciado en Ciencias Naturales, Agregado a la Estación Central de Patología Vegetal, La Moncloa, Madrid (8) (España).
- FONT DE MORA, Rafael, Ingeniero Agrónomo, Director de la Granja Arrocería, Sueca (España).
- GARRIDO Y DOMINGO, Ramón, Ingeniero Agrónomo, Jefe de la Sección Agronómica, Albacete (España).
- HERCE Y FERNÁNDEZ, Pedro, Ingeniero Agrónomo, Profesor Auxiliar de la Escuela de Ingenieros Agrónomos, Agregado a la Estación Central de Patología Vegetal, La Moncloa, Madrid (8) (España).
- NONELL Y COMAS, Jaime, Ingeniero Agrónomo, Director de la Estación de Patología Vegetal, Ganduxer, 14, torre, San Gervasio, Barcelona, (España).

Esthonia.

- KÄSEBIER, Ants, Adjoint du Directeur de la Station phytopathologique expérimentale de l'Université, Tartu (Esthonie).
- ZOLK, Karl, Chef de la Station entomologique expérimentale de l'Université, Tartu (Esthonie).

(*) This list will be completed in subsequent numbers.

The Federated Malay States.

CORBETT, G. H., Government Entomologist, Head of the Division of Entomology, Department of Agriculture, Kuala Lumpur, Selangor, Federated Malay States.

SHARPLES, A., Government Mycologist, Head of the Division of Mycology, Department of Agriculture, Kuala Lumpur, Selangor, Federated Malay States.

Greece.

AYOUTANTIS, André, Chef de la Section des recherches phytopathologiques, Direction de la Phytopathologie, Ministère de l'Agriculture, Athènes (République Hellénique).

CAVADAS, Demetrios, Directeur de la Station phytopathologique de Lechonia, Volos (République Hellénique).

ISSAKIDÉS, Constantin A., Directeur de la Phytopathologie, Ministère de l'Agriculture, Athènes (République Hellénique).

Guadeloupe.

Chef du Service de l'Agriculture, Basse-Terre (Guadeloupe).

British Guiana.

ALTSON, RALPH ABBEY, B. Sc., A. R. C. S., Assistant Botanist and Mycologist, Science and Agriculture Department, Georgetown, Demerara, British Guiana.

CLEARE, LAURENCE DELANEY, Jr., F. L. S., F. E. S., Government Economic Biologist, Science and Agriculture Department, Georgetown Demerara, British Guiana.

West Indies.

BALLOU, Prof. H. A., Entomologist, The Imperial College of Tropical Agriculture and Imperial Department of Agriculture for the West Indies, Trinidad.

BRITON-JONES, Dr. H. R., Mycologist, The Imperial College of Tropical Agriculture and Imperial Department of Agriculture for the West Indies, Trinidad.

Indochina.

CÉRIGHELLI, Ingénieur agronome, Docteur ès-sciences, Chef du Service de Protection des Plantes de l'Indochine, *par l'intermédiaire de* M. l'Inspecteur Général de l'Agriculture, de l'Élevage et des Forêts, Gouvernement Général de l'Indochine, Hanoi.

'Iraq.

WEBSTER, J. F., B. A., Inspector-General of Agriculture, Baghdad, 'Iraq.

Italy.

Direzione Generale dell'Agricoltura, Ministero dell'Economia Nazionale,
R o m a (Italia).

R. Stazione di Patologia vegetale, via S. Susanna, 13, R o m a (Italia).

Latvia.

EGLITS, Max, Chargé de cours à l'Université, Directeur de l'Institut pour la
Protection des Plantes, Baznicas iela Nr. 4a., R i g a (Lettonie).

GAILIT, Laimon, Chargé de cours à l'Université, Entomologiste du Ministère
de l'Agriculture, Département de la Sylviculture, Kalpaka bulvari Nr. 6,
R i g a (Lettonie).

Lithuania.

MASTAUSKAS, S., Professeur agrégé de l'Académie d'Agriculture, D o t n a v a
(Lithuanie).

VILKAITIS, V., Professeur agrégé de l'Académie d'Agriculture, D o t n a v a
(Lithuanie).

DISCOVERIES AND CURRENT EVENTS IN WORLD PHYTOPATHOLOGY

Greece : Introduction of *Icerya purchasi* into Athens (1).

The law 214 of 31 March 1914 forbade the introduction into Greece of plants or parts of plants from countries in which phylloxera is known to exist.

The decree-law of 22 July 1925, which superseded law 214, permits the importation into Greece of plants or parts of plants from any country provided a certificate be sent with them, bearing the visa of the Greek consul residing in the country of origin, to the effect that the district where they were grown is situated at least 10 kilometres from the nearest vineyard.

As a result of this permission to import the *Icerya purchasi* was introduced into Athens towards the end of 1926 by a florist who had imported ornamental plants from the French Riviera.

The *Icerya* is found in Chios and Lesbos, islands of the Greek Archipelago, where it was introduced while these islands were still under Turk-

(1) Communication from M. André AYOUTANTIS, Chief of the Section for phytopathologic research to the Ministry of Agriculture, Athens, official correspondent to the Institute.

ish rule; and in the island of Samos, where it was introduced a little later.

The Turkish Government had imported and acclimatized in these islands the *Novius cardinalis*.

The Minister of Agriculture had already taken the necessary steps for the introduction and acclimatization of the *Novius* in the neighbourhood of Athens.

India : A New Disease of *Piper betel* (1).

The only new disease to report in 1926 is a wilt of pan (*Piper betel*). The disease is of old standing but the cause has just been discovered to be a species of *Phytophthora* not yet named. Experiments will be made during 1927 with a view to finding the methods of control.

India : New Insect Pests discovered during the year 1926 (2).

COLEOPTERA. — Elaterid grubs attacking roots of young cotton plants at Poona.

Trogoderma khapra on stored grain in Burma (Not new for India but new for Burma).

Xyleborus compactus on Coffee in Mysore.

RHYNCHOTA. — *Tetradia histeroides* in association with *Scotinophora lurida* damaged rice seriously in the Trichinopoly district.

Stibaropus tabulatus attacking roots of tobacco at Coimbatore.

A small Jassid (unidentified) attacked rice in Malabar.

Ceroplastodes chiton, Green, attacked sword-bean plants in the Andamans (new foodplant and locality).

LEPIDOPTERA. — *Jamides bochus*, damaging oranges in Ranchi District.

Chelaria haligramma, Meyr. Larva on mango flowers at Anakapalli, Madras Presidency.

Bucculatrix (n. sp.). Larva mining leaves of young trees of *Zyzyphus jujuba* and doing considerable damage to young trees at Ranchi.

Tarache nitidula, Fb., on cotton leaves in South-east Punjab. (Not new to India, but a new pest in the Punjab).

A new pyralid borer of sugar cane (not yet identified) in the Punjab, causing serious damage to CO. 205 sugar cane. Removal of the damaged shoots during July and August, when the caterpillars are found feeding in clusters, has proved an effective check.

DIPTERA. — *Pachytiplosis oryzae* attacking rice in the Central Provinces. (Not new for India, but not recorded previously from the Central Provinces).

Adrama austeni, Hendel, on tea seed in Assam.

(1) Communication from Mr. W. McRAE, Imperial Mycologist, and transmitted by M. S. A. HYDARI, Esq., I. C. S., Offg. Deputy Secretary to the Government of India.

(2) Communication from the Imperial Entomologist, Pusa, and transmitted by M. S. A. HYDARI, Esq., I. C. S., Offg. Deputy Secretary to the Government of India.

Italy: New or specially important Diseases.

Montemartinia myriadea Curzi n. gen. et n. sp. (ord. *Pyrenomycetæ*), on the underground part of the roots of *Pyrus communis*, prevalent round Piacenza (1).

Pseudoperonospora Humuli (Miyabe et Takah.) Wils., appearing on *Humulus Lupulus* for the first time in Italy at Cannara (Perugia) (1).

Phytophthora Syringæ Kleb., on *Syringa vulgaris*, in Northern Italy (2).

The so called "mal del secco dei limoni" (citrus blast) an endemic disease, limited to certain lemon groves in the province of Messina. *Colletotrichum gloeosporioides* Penz. is the direct cause of the drying, but the attack of this weak parasite is due to the abnormal conditions of the plants which are subjected to forcing for "verdelli" (green lemons specially for export) on soil very deficient in lime. The disease is prevalent in the communes of S. Teresa di Riva, Roccalumera, Nizza di Sicilia (2).

The "mal del piombo" of the peach, of a non parasitic nature, has appeared in a severe form in the peach groves of Emilia (provinces of Bologna and of Ravenna) and in certain others in Lombardy (2).

The presence of *Fusicoccum Amygdali* Delacr. which causes the ends of the twigs to dry up and also attacks the fruit though not the kernels, has been notified in an almond plantation near Bari. This parasite had not previously been noted in Italy. The damage done is inconsiderable. Its development is obviously connected with the abnormal weather conditions experienced in the spring and autumn of 1926 (2).

Gloeosporium Cyclaminis Sibia, on the petioles, leaf blades and peduncles of *Cyclamen persicum*; a fungus already encountered in Switzerland but not identified; found among cultivated *Cycl. persicum*, near Florence (2).

Ramularia sp. on the petioles and lacinate leaf blades of *Foeniculum vulgare*; a weakly parasitic species, at present under investigation, noted in gardens in the neighbourhood of Rome (2).

Italy: Plague of Voles (*Arvicolidae*) in Apulia and Basilicata (3).

The plague of voles (*Arvicolidae*) which broke out in October 1926 with a certain intensity in the provinces of Foggia, Bari, Taranto and Basilicata is now tending to abate in consequence of a keen and continuous campaign by means of zinc phosphide and arsenate of soda.

Local opinion has it that the tendency to abate is due to infection caused and carried by fleas and lice. The phytopathological Station of Apulia is at present making experiments to test this theory.

(1) Communication from the "R. Osservatorio di Fitopatologia" of Pavia, forwarded by the "R. Stazione di Patologia vegetale" of Rome, official correspondent to the Institute.

(2) Communication from the "R. Osservatorio di Fitopatologia" of Rome, forwarded by the "R. Stazione di Patologia vegetale" of Rome, official correspondent to the Institute.

(3) Communication from Dr. Giovanni MARTELLI, Director of the "R. Osservatorio di Fitopatologia" of Apulia at Taranto, forwarded by the "R. Stazione di Patologia vegetale" of Rome, official correspondent to the Institute.

The infestation varies within each province and occurs as follows :—

Foggia : the high valley of the Ofanto, affecting the communes of Candela, Ascoli Satriano, Cerignola and Trinitapoli ; the middle and lower valley of the rivers Candelaro, Cervaro and Carapelle, affecting the communes of Foggia, Manfredonia, S. Giovanni Rotondo, S. Severo, Apricena and Poggio Imperiale, and the middle and lower valley of the Fortore, affecting the communes of Torremaggiore, S. Paolo Civitate, Chienti and Serracapriola.

Bari : valley of the Basentello and Gravina torrents, as well as that of the little river Locone, the middle valley of the Ofanto, affecting the communes of Altamura, Gravina di Puglia, Spinazzola and Canosa di Puglia.

Taranto : Communes of Laterza, Ginoša and Castellaneta.

Basilicata : middle and low valley of the rivers Basentello, Bradano, Basento and Agri, affecting the communes of Palazzo S. Gervasio, Genzano, Forenza, Irsina, Matera, Montescaglioso, Ferrandina, Bernalda, Pisticcio and Montalbano Jonico, as well as those of Melfi, Rionero and Lavello in the same province.

Switzerland : Yellow Rust of Cereals (1).

In May 1926 there was a sharp outbreak of yellow rust [*Puccinia glumarum* (Schmidt) Erikss. and Henn.], increasing in intensity in June, on wheat, spelt wheat, and rye causing considerable damage. The resulting loss was particularly great, when the attack was so severe as absolutely to prevent ear formation, or where the rust clusters had formed between the glumes. 1925 has been a bad rust year, but was surpassed by 1926 with its cold spring and consequences. Breeding rust resistant varieties is a most efficient means of combating the disease. Different cereal varieties and even the descendants of different plants of the same local variety show extraordinarily varying degrees of rust resistance, e. g. "Plantahof" wheat is more rust resistant here than "Plyner" wheat.

Switzerland : Outbreak of Wart Disease (1).

In 1925 Wart Disease (*Synchytrium endobioticum*) was verified in 11 communes of the cantons of Lucerne, Basle and Aargau. Control measures were commonly adopted. Only in one case at Ruswil in the canton of Lucerne did the disease re-appear in 1926, where regulations had been neglected and potatoes planted on a field lying immediately beside a potato field infected in 1925. In addition there were two new outbreaks at Rümikon bei Kaiserstuhl in the canton of Aargau and in Thal bei Rheineck in the canton of S. Gallen. At Rümikon it attacked

(1) Communication from Dr. E. NEUWEILER, Swiss Agricultural Experimental Station Oerlikon-Zürich, official correspondent to the Institute.

"Industry" potatoes, the seed for which had been selected from table varieties imported in 1925 and planted on newly ploughed ground. In 1926 from the resulting crop potatoes were again planted in the same field and wart disease appeared in one row of these when dug. The 1925 seed was infected. In Thal wart disease was found but only on a single plant of "Alma". Wart disease has also made its appearance in the neighbouring Vorarlberg boundary commune of Lustenau.

An Official order of 20 January 1926 forbade the importation of potatoes from 1 February 1926 till the end of the planting season, *i. e.* the end of May 1926, though the Federal Department of Public Economy allowed the granting of import licences where necessity was shewn and a guarantee of sound healthy goods was required. This check on imports succeeded in preventing any further spread of wart disease.

LEGISLATIVE AND ADMINISTRATIVE MEASURES

French Equatorial Africa (*). — By a decree of 7 December 1926 the Colonial Minister has prohibited in the following Colonies: French Equatorial Africa, French West Africa, the French Settlements of Oceania, Guadeloupe, French Guiana, Indo-China, Madagascar and its dependencies, Martinique, New Caledonia and Réunion, the importation, circulation, storage, and transit, of banana saplings coming from countries where the "Panama disease" (*Fusarium cubense*) is known to exist, and from all others where the importation of these saplings is neither prohibited nor subjected to a phytopathological control.

The above prohibition is applicable to saplings coming from the American continent, the Antilles, the Canary Islands, Sierra Leone and the Gold Coast.

In the above mentioned French Colonies the importation, circulation, storage, and transit of saplings of different origin from that already indicated can only be authorised on presentation of a certificate issued by the competent authorities of the country of origin, stating that the saplings have not come from a district where this disease is known to exist, nor

(*) The countries are arranged in the French alphabetical order.

from a country where the importation of such saplings is neither forbidden nor subjected to phytopathological control. In addition, the authorisation for the importation, circulation, storage, and transit in the above colonies can only be given for one of the points of ingress designated for each colony by a decree of the local administration, and is definitely accorded only after an examination made by an official appointed by the Governor, who pronounces the products to be apparently healthy and free from *Fus. cubense*.

In exceptional cases permission may be given by the Colonial Minister to introduce into the French colonies banana saplings originating from one of the infected countries mentioned above, or from a district where the importation of such saplings is neither forbidden nor subject to a phytopathological control. But such concessions can only be allowed by the Colonial Minister when the introduction of these saplings is considered specially desirable as being of technical or economic importance. Furthermore, the saplings thus admitted by virtue of a ministerial concession must be accompanied by a phytopathological certificate stating that they are free from the disease. They will be received by the agricultural service, which will cultivate them and keep them under observation as long as is considered necessary. Any saplings which are seen to be diseased shall be burnt, and the importer shall not be entitled to receive any compensation. (*Journal officiel de la République Française*, Paris, 1926, LVIII^{ème} année, n^o 300, pp. 13498-13499).

French West Africa. — See French Equatorial Africa.

England. — The Ministry of Agriculture and Fisheries prohibits as from 15 January 1927 the importation into England and Wales of all living Elm Trees from any European country, other than Scotland, Ireland, the Channel Islands, and the Isle of Man. The object is to prevent the introduction of elm pests including *Graphium Ulmi* and *Micrococcus Ulmi*. (*Statutory Rules and Orders*, 1926, No. 1636. *Destructive Insect and Pest, England. The Importation of Elm Trees (Prohibition) Order of 1926. Dated December 23, 1926.* London, 1927, 1 p.).

Spain. — For the purposes of the Royal Decree of 31 December 1926, No. 8, the "Servicio Fitopatológico Agrícola", the headquarters of which are at the "Instituto Nacional Agronómico de Investigación y Esperiencias", will be subdivided as follows: (a) investigation and experiment; (b) service of phytopathological inspection; (c) control service.

The work of investigation and experiment will be discharged by the central and regional Stations of "Fitopatología agrícola" with the help of the Observatories of "Fitopatología agrícola" instituted in virtue of the same decree.

The "Estación Central de Fitopatología agrícola" is provided by the existing "Estación Central de Patología vegetal del Instituto Agrícola de Alfonso XII". The Director of this Station is also the chief officer of the phytopathological service.

The "Estaciones Regionales de Fitopatología agrícola" are constituted by the existing Stations of plant pathology at Barcelona, Almería, Valencia, Valladolid and La Coruña, as well as by the newly established Seville Station.

In the regions where there is no Station, regional Observatories of "Fitopatología agrícola" will be instituted; these Observatories will be established at Saragossa, Badajoz, Zamora, Santander, Pamplona, Palma de Mallorca, Ciudad Real and Tenerife.

For the training of technical staff and specialised assistants, the National Institute of Agronomy will institute studentships for agricultural engineers and persons qualified in the natural sciences, attaching them temporarily to the Stations of "Fitopatología agrícola".

At the frontier customhouse Stations and at the authorised ports premises will be provided suitable for the examination of living plants and plant products as well as a small laboratory for the observations and investigations required. Where not already in existence chambers or huts will be arranged for the disinfection of plants. (*Gaceta de Madrid*, Madrid, 1927, año CCLXVI, tomo I, núm. 1, págs. 14-15).

* * In virtue of the Royal Decree of 7 January 1927, No. 50, the "Servicio de Estudio y Extinción de Plagas Forestales", the object of which is to carry out research and practical work for the prevention and control of the diseases and pests of forest plants whether trees, shrubs or herbaceous plants growing in the forests, as well as of their products, is divided into two Sections: the "Sección de Estudio" and the "Sección de Extinción".

The former of these will include: 1. the "Laboratorio de la Fauna forestal española" and the insectarium attached, together forming a single institution under the title of "Estación Central de Fitopatología forestal"; 2. the "Estaciones regionales de Fitopatología forestal" already in existence, and those to be established in the future; 3. the "Delegaciones y Aduanas de Fitopatología forestal". A share in the work will also be taken by the Laboratories connected with institutes of instruction or research, which may be engaged in the study of subjects of special interest for the Service and also where necessary by persons of recognised competence in a particular subject.

The Stations which will be equipped with Laboratories for Forest Entomology and Pathology, with insectaria and experimental plots, will continue with the special catalogue of the diseases and pests of the forest plants and to be responsible for the formation of regional biological museums, thus taking their share in educational work.

These Stations will be distributed as follows:—

Central Station with jurisdiction over the provinces of Madrid, Guadalajara, Toledo, Avila, Valladolid, Segovia, with headquarters at Madrid.

First regional Station, with jurisdiction over the provinces of Saragossa, Huesca, Lérida, Barcelona, Gerona, Tarragona, Soria, Logroño, Alava, Vizcaya, Guipúzcoa, Navarra, with headquarters at Saragossa.

Second regional Station with jurisdiction over the provinces of

Valencia, Alicante, Murcia, Almería, Albacete, Cuenca, Teruel, Castellón, the Balearic Islands, with headquarters at Valencia.

Third regional Station with jurisdiction over the provinces of Seville, Córdoba, Jaén, Granada, Málaga, Cádiz, Huelva, the Canary Islands, with headquarters at Seville.

Fourth regional Station, with jurisdiction over the provinces of Salamanca, Ciudad Real, Badajoz, Cáceres, Zamora, with headquarters at Salamanca.

Fifth regional Station, with jurisdiction over the provinces of Oviedo, Santander, Burgos, Palencia, León, Orense, Pontevedra, Coruña, Lugo, with headquarters at Oviedo.

When necessary, these Stations will carry out their enquiries away from their headquarters in each case by means of temporary missions or travelling forestry Stations.

The provincial deputations and the municipalities, the associations and other agricultural or forestry organisations are empowered to set up institutions on the same lines or to subsidise those within the area of the region. The "Ministerio de Fomento" will assist by arranging for the training of a technical specialised staff, and by making special grants or providing mechanical or other appliances required for control work.

The "Delegaciones de Fitopatología forestal" will be conferred on persons possessing the necessary qualifications, who will be appointed as delegates for the phytopathological inspection.

In order to encourage the training of the staff required for the Service, "Ingenieros de Montes" studentships will be granted for special work in forest entomology and pathology.

The second Section of the Service or the "Sección de Extinción" is responsible for the practical carrying out of the control measures of diseases and pests of the forest plants. The staff of the Forestry Service will be detailed for this work, except when it becomes necessary to have the direct intervention of the staff assigned to the "Sección de Estudio". (*Gaceta de Madrid*, Madrid, 1927, año CCLXVI, tomo I, núm. 8, págs. 196-197).

French Possessions in Oceania. — See French Equatorial Africa.

Guadeloupe. — See French Equatorial Africa.

French Guiana. — See French Equatorial Africa.

Indo-China. — See French Equatorial Africa.

Italy. — The presence of Vine phylloxera [*Phylloxera vastatrix*] being ascertained in the communes of Castelmauro, Campolieto and Mirabello Sannitico in the province of Campobasso, by a decree of 6 November 1926 the measures contained in articles 10-14 of regulation No. 1099 of 13 June 1918, on the export of articles indicated in nos. 1, 2, 3 and 4 of the said regulation, were extended to cover the territories of the above communes.

Identical precautionary measures have been applied on the same grounds to the following other Communes :— Serra San Quirico in the province of Ancona, decree dated 6 November 1926 ; Canzano in the Province of Teramo, decree of 10 November 1926 ; Casalborgone in the province of Turin, Decree of 16 November 1926. (MINISTRY OF NATIONAL ECONOMY. *Bollettino ufficiale. Legislazione e disposizioni ufficiali*, Roma, 1926, anno IV, n. 22, p. 2692).

*** By a Royal Decree of November 22, 1926 the Minister of National Economy has named the Institutes which shall be responsible for the application of the Royal Decree of October 15, 1925, No. 2033, regarding the suppression of fraud in the preparation and sale of articles of agricultural use and of agricultural products.

Among these Institutes are included : The " R. Osservatorio di Fitopatologia " of Turin for all questions relating to seed testing and botanic analyses in the provinces of Turin, Novara and Cuneo ; The " R. Osservatorio di Fitopatologia " of Chiavari, for seed testing and botanical analyses in the provinces of Alessandria, Genoa, Imperia, and Spezia ; the " Regia Scuola agraria media " of Brescia, for antiparasitics, in the province of Brescia ; the " R. Scuola agraria media " of Voghera, for antiparasitics in the province of Pavia ; the " R. Osservatorio di Fitopatologia " of Pavia, for seed testing and botanical analyses in the provinces of Pavia and Cremona ; the " R. Osservatorio di Fitopatologia " of Verona for seed testing and botanical analyses in the provinces of Padua, Treviso, Vicenza and Verona ; the " Laboratorio di Chimica agraria " of the " R. Istituto tecnico " of Florence, for antiparasitics in the provinces of Florence and Arezzo ; the " Laboratorio di Chimica agraria " of the " R. Istituto tecnico " of Pesaro, for antiparasitics in the province of Pesaro-Urbino ; the " R. Osservatorio di Fitopatologia " of Fano for seed testing and botanical analyses in the provinces of Pesaro-Urbino, Ancona, Ascoli Piceno, Macerata and Zara ; the " R. Osservatorio di Fitopatologia " of Rome, for seed testing and botanical analyses in the province of Rome, Aquila, Chieti, Teramo, Cagliari and Sassari ; the " R. Scuola agraria media " of Alanno, for anti-cryptogams in the province of Teramo ; the " R. Osservatorio di Fitopatologia " of Taranto for seeds and botanical analyses in the provinces of Bari, Foggia, Lecce and Taranto ; the " R. Osservatorio di Fitopatologia " of Palermo for seed testing and botanical analyses in the provinces of Palermo, Messina, Girgenti, Trapani and Reggio Calabria. (*Gazzetta ufficiale del Regno d'Italia*, Roma, 1927, anno 68°, n. 23, pp. 394-395).

*** The " Ente nazionale serico " (National Silk Institute) has been formed by royal decree No. 2265 of 16 December 1926 with headquarters in Milan. Its object is the encouragement in Italy and the Italian colonies of increased mulberry growing and silk culture, as well as progress in the national silk production and industry.

The new Institute will also take steps to spread the adoption of rational control methods against mulberry and silk worm diseases. (*Gazzetta ufficiale del Regno d'Italia*, Roma, 1927, anno 68°, n. 10, pp. 138-140).

* * *

* * * On the initiative of the Travelling School ("Cattedra ambulante") of Agriculture at Girgenti, it has been decided to set up at San Biagio Platani an 'association ("Consorzio") of the owners of citrus plants for the purpose of controlling the *Chrysomphalus dictyospermi*, and another association of the owners of olive-yards for the control of the *Dacus oleae*. (*Giornale di Agricoltura della Domenica*, Piacenza, 1927, anno XXXVII, n. 2, p. 15).

Luxembourg (Grand Duchy of). — By Ministerial Decree of January 31, 1927 a service of local observers or watchers was established, covering 21 communes of the Duchy, with one observer for each commune. This step was taken as it was recognized that in the interests of vine-growing in this Duchy the appearance of any vine disease should immediately be notified to the vine-growing Station. These observers, who have the right of entry to all vineyards in the discharge of their duty, are responsible to the Director of the above Station. (*Mémorial du Grand-Duché de Luxembourg*, Luxembourg, 1927, n° 6, p. 63-64).

Madagascar and Dependencies. — See French Equatorial Africa.

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Wales. — See England.

Réunion. — See French Equatorial Africa.

Sweden. — By a Royal Decree of 10 December 1926, No. 497, which came into force 1 January 1927, paragraph 1 of the Royal Decree of 12 September 1921, No. 532, containing measures regarding the importation of potatoes, was modified.

The modifications introduced deal with the information that should be given in the sanitary certificate to be issued by the exporting countries, and also the type of packing to be used.

The certificate should show, among other details, that the potatoes are free from wart disease (*Synchytrium endobioticum*) and that the disease does not exist in the exporting country and has not appeared there within the six years preceding the issue of the certificate. (*Svensk Författningssamling*, Stockholm, 1926, Nr. 491-500, sid. 1038-1039).

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